

Application Serial No. 10/798,001

Docket: CU-3633

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## REMARKS

Reconsideration is respectfully requested.

Claims 13-21 were pending in the present application before this amendment.

By the present amendment, claims 14 and 19-21 have been amended and new claims 22-30 have been added. No new matter has been added.

In the office action, claims 13-15 and 19-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 3,979,184 (Giaever) in view of U.S. Patent 5,412,087 (McGall) and in light of U.S. Patent 3,982,908 (Arnold).

The Examiner has alleged that the "immobilization layer" of the present invention corresponds to the "Biological Particle Layer" in Giaever. For this reason, claims 13-15 and 19-21 are allegedly made obvious over Giaever in view of McGall and in light of Arnold.

The Applicant respectfully disagrees that the above-mentioned "Biological Particle Layer" is equivalent to the "immobilization layer" in the present invention. Rather, the Applicant respectfully contends that the above mentioned "Biological Particle Layer" is equivalent to the "probe biomolecule" in the present invention.

The "immobilization layer" of the present invention is to immobilize the "probe biomolecule" onto the substrate from bio-microarray of the present invention. Further, the substrate for bio-microarray of the present invention is a substrate for bio-microarray which can be obtained by immobilizing the "probe biomolecule" onto the "immobilization layer". On the other hand, the "Biological Particle" described in Giaever corresponds to the "probe biomolecule" of the present invention and not to the immobilization layer". This is obvious from the description of Giaever (See Giaever: column 2, line 8).

As described above, Giaever does not disclose the "immobilization layer" of the present invention. Therefore, the present invention is not obvious to those skilled in the art from Giaever, so the invention described in claims 13-15 and 19-21 or the present application do not fall under 35 USC 103(a).

In the office action, claims 16-18 stand rejected under 35 USC 103 as being unpatentable over Giaever in view of McGall further in view of Noblett (US 6,362,004).

As described above, since Giaever does not disclose the "immobilization layer" of the present invention, the present invention is not obvious to those skilled in the art by combining Giaever and Noblett. Therefore, the invention described in

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claims 16-18 of the present application do not fall under 35 USC 103(a).

Regarding new claims 22-25, the Applicant respectfully contends that all of the cited references, in whole or in combination, do not teach or suggest all of the presently claimed limitations found in these new claims 22-25.

As per §2143.03 of the *Manual of Patent Examining Procedure*, in order to establish a *prima facie* case of obviousness, the combined prior art references must teach or suggest all of the claim limitations.

The Examiner's attention is respectfully directed towards the following emphasized limitation of newly submitted independent claim 22:

22. (new) A bio-microarray device comprising:  
a substrate is selected from the group consisting of a metal, a semiconductor, a glass, a polymer material and admixtures thereof;  
an anti-reflection layer formed on the surface of the substrate wherein the anti-reflection layer comprising fine particles coated with a **polymer resin material selected from the group consisting of meta-acrylic-based resins, styrene-based resins, cycloolefin-based resins, polyester resins, polycarbonate resins, polydiallyldimethylammonium resin, a crosslinked polyallyamine polyacrylic resin and admixtures thereof**, wherein the anti-reflection layer has a fine uneven structure comprising a fine particle of diameter in a range of 50 nm to 300 nm; and  
an immobilization layer comprising a thin film of **poly-L-lysine** formed in a pattern for immobilizing a probe biomolecule thereon.

The Applicant respectfully submits that none of the cited references, i.e., Giaever, McGall, Arnold, and Noblett disclose teach or suggest the above-emphasized limitations of independent claim 22. More specifically, none of the cited references teach an anti-reflection layer made of a fine particles coated with a polymer resin material selected from the group consisting of meta-acrylic-based resins, styrene-based resins, cycloolefin-based resins, polyester resins, polycarbonate resins, polydiallyldimethylammonium resin, a crosslinked polyallyamine polyacrylic resin and admixtures. Further, none of the cited reference teach an immobilization layer comprising a thin film of poly-L-lysine.

As such, since none of the cited references in whole or in part teach the above emphasized limitations then a rejection based on anticipation or obviousness as per §2131 or §2143.03 of MPEP is not sufficient. The Applicant therefore respectfully submits that independent claim 22 is in allowable form.

Claims 23-25 depend from independent claim 22 and, as such, incorporate by reference all the claim limitations contained therein, including the above emphasized limitations which have already been shown to be absent from all of the cited references. Accordingly, new claims 23-25 are also believed to be allowable as

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being dependent upon an allowable base claim.

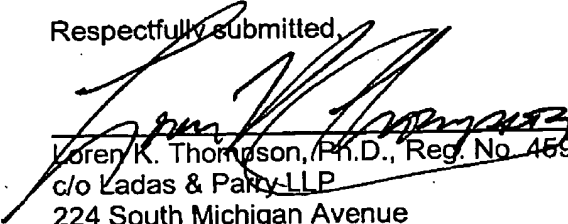
In summary the Applicant respectfully contends that claims 12-21 and new claims 22-25 are all believed to be allowable and therefore the Examiner is respectfully requested to withdraw the rejections of claims 12-21.

For the reasons set forth above, the Applicant respectfully submits that claims 13-21 and new claims 22-25, now pending in this application, are in condition for allowance over the cited references. Accordingly, the Applicant respectfully requests reconsideration and withdrawal of the outstanding objections and rejections and earnestly solicits an indication of allowable subject matter. This amendment is considered to be responsive to all points raised in the office action. Should the Examiner have any remaining questions or concerns, the Examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

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Date



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